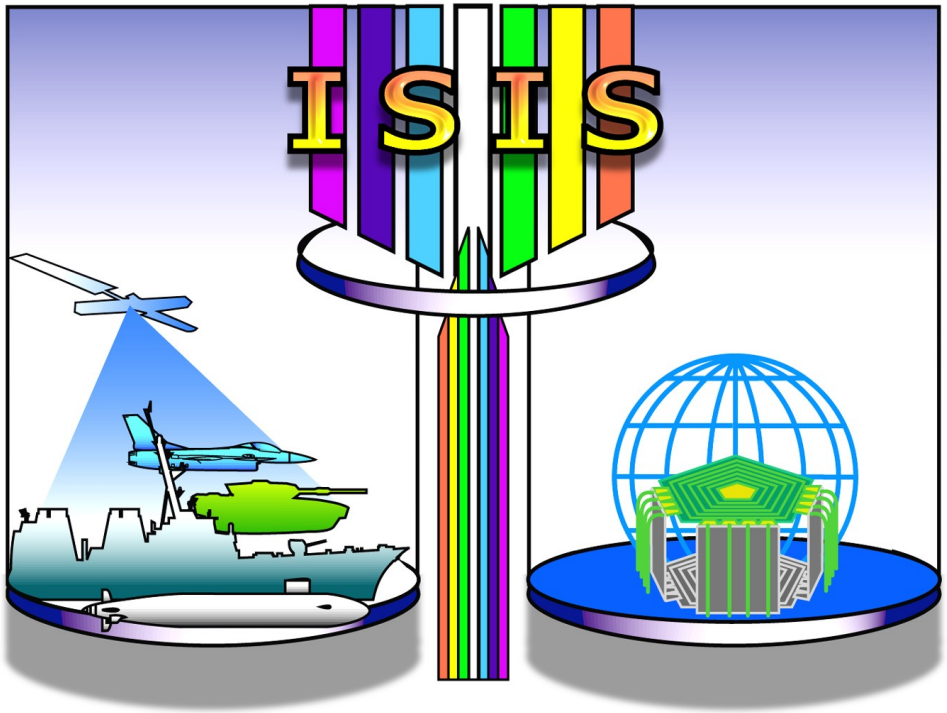
Superiority Investment Strategy



Process Briefing

January 2001

Bruce Brody,
OASD(C3I)
(703) 607-0685
bruce.brody@osd.pentagon.mil

CAPT Eric Myers, USN,
JS/J2
(703) 695-0380
eric.myers@misc.pentagon.mil

COL Pat Lusk, USA,
JS/J6
(703) 607-0662
patrick.lusk@js.pentagon.mil

Investment Strategy

- **ISIS Is a Continuing Process**
  - Actionable recommendations for C4ISR investment
  - Integrated, balanced strategy consistent with fiscal guidance (and excursions)
  - Long range context (10-15 years)
- **ISIS Features**
  - Assessment of C4ISR support to DoD missions
  - Options (including associated costs, benefits, risks) to address resulting issues
  - Options combinations that optimize mission outcomes for given investment
  - Full-spectrum across missions and C4ISR domains
  - Analytically based
- **ISIS Uses**
  - Input to PPBS, QDR, Joint Requirements processes
  - Context for leadership decisions on individual issues

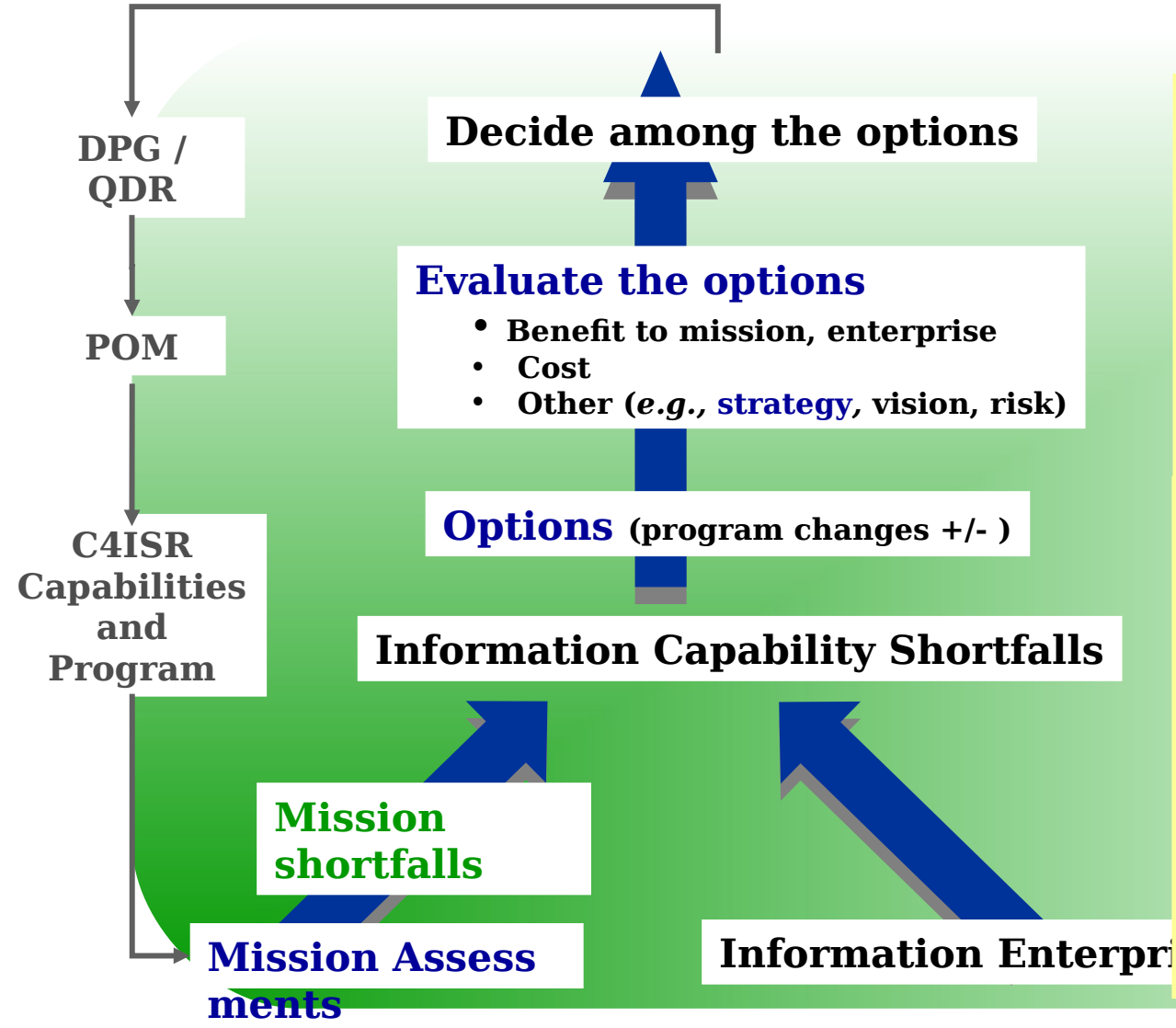
Partnership between

ASD/C3I

and Joint Staff

Complexity and scope addressed over multiple years using iterative, evolutionary approach

Process for Generating an Investment Strategy



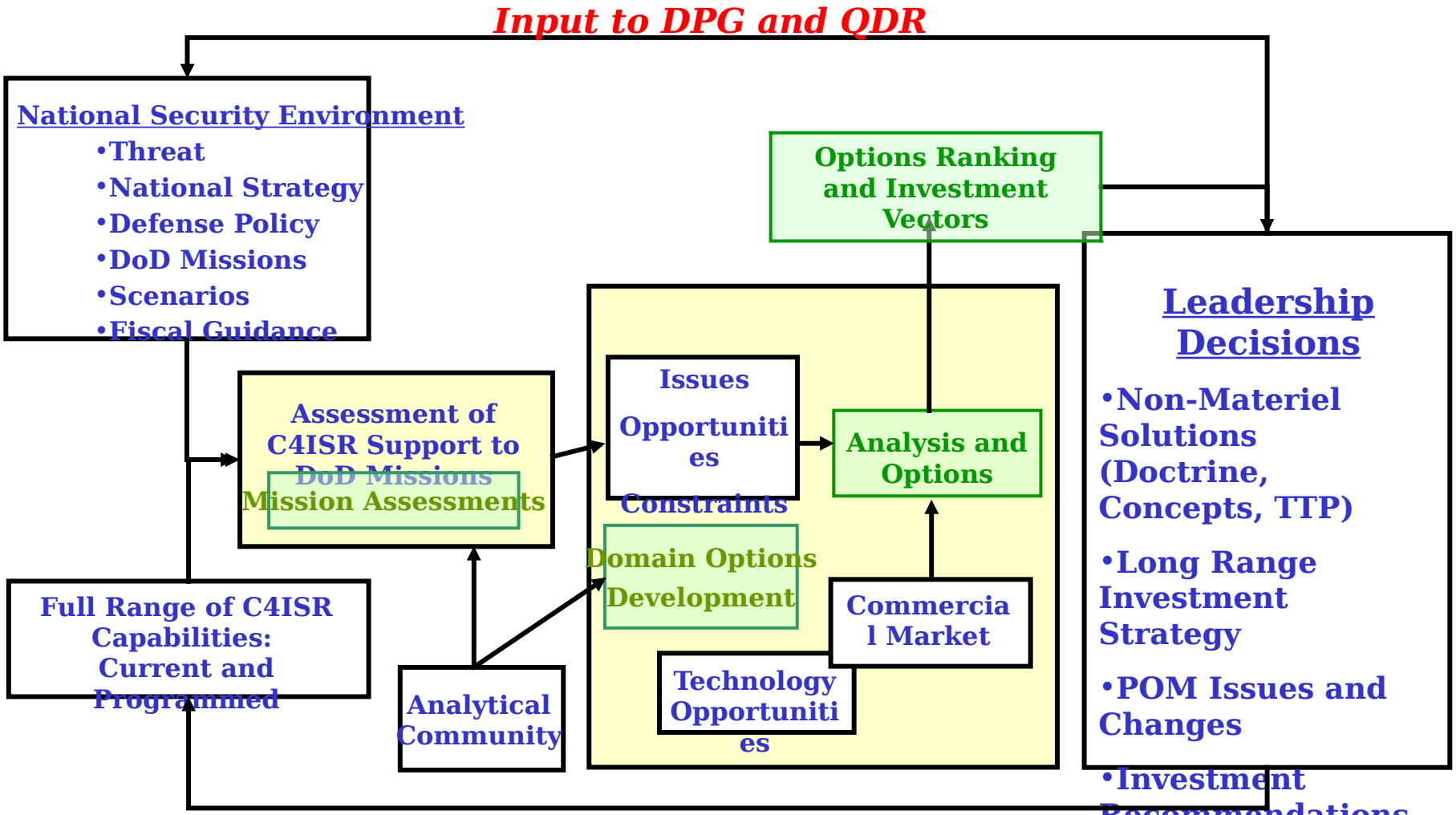
Link information capability to mission capability.

Enable tradeoffs across information

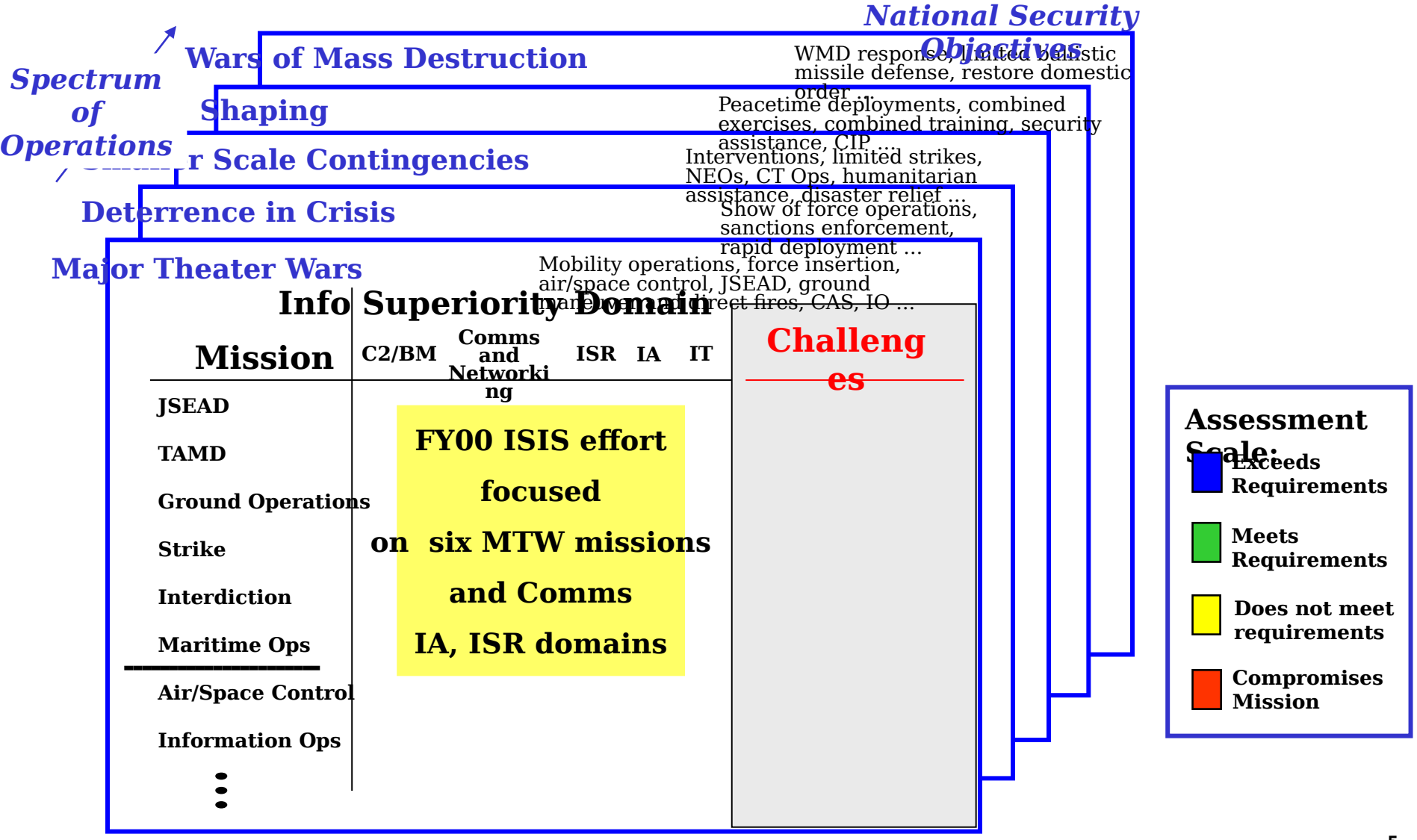
<u>Investment Strategy:</u>

A plan, or set of decisions, for the outlay of money to maximize military benefit and/or reduce cost.

ISIS Process Flow

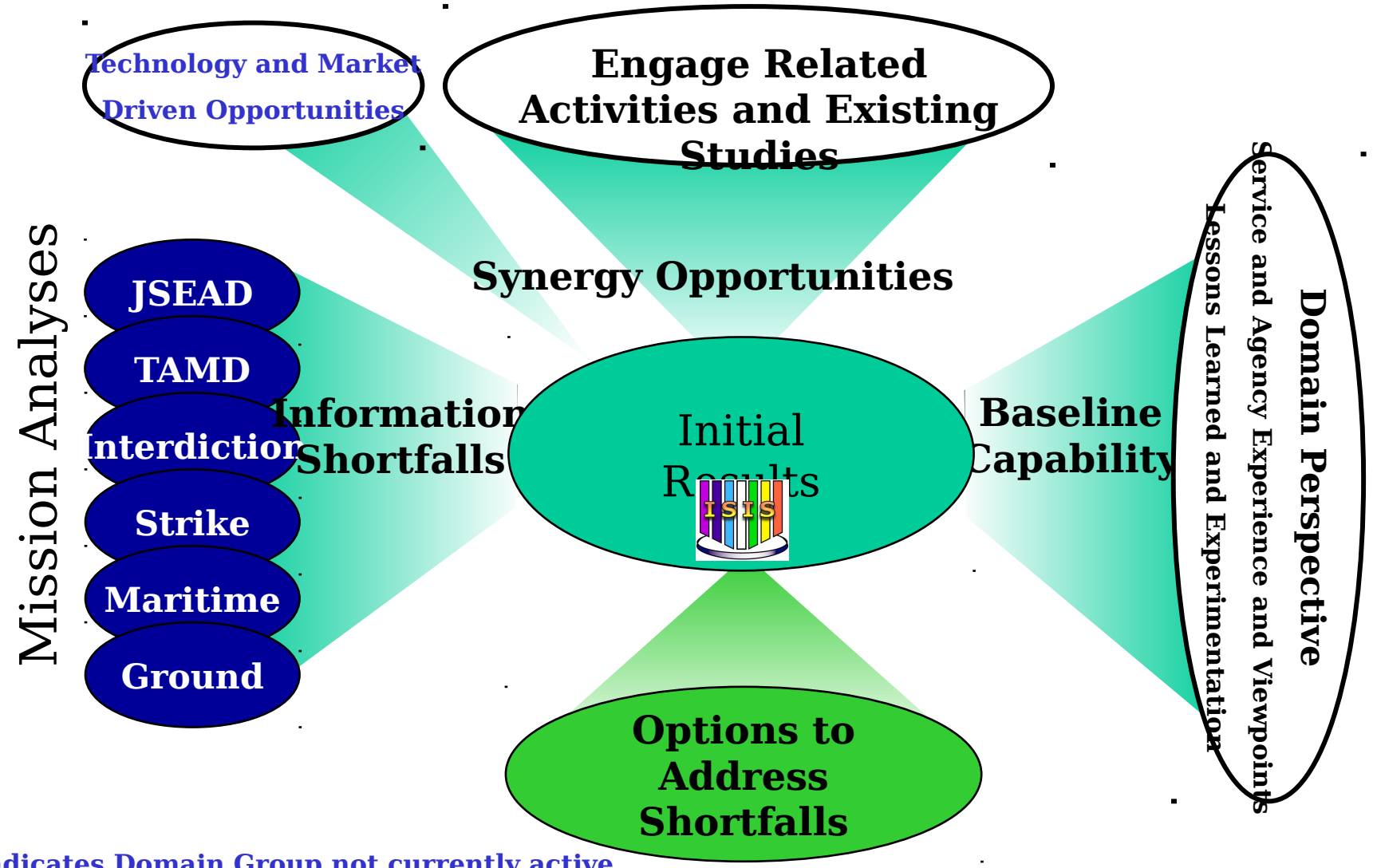


Mission Assessments: Spectrum of Conflict



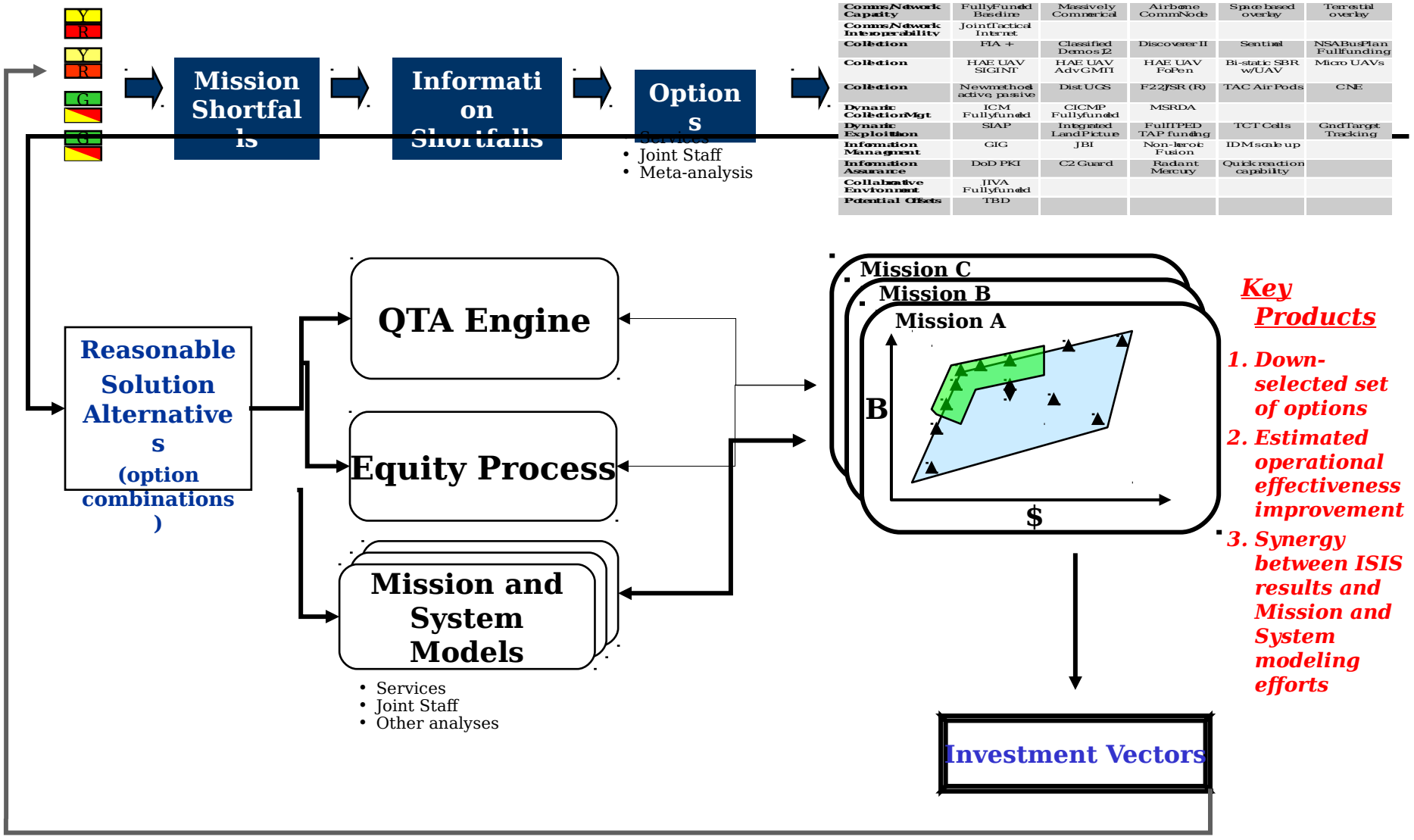
Domain Areas

(Comms/Networking; ISR, IA, C2*)



* indicates Domain Group not currently active

Cost Benefit Estimation Approach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R
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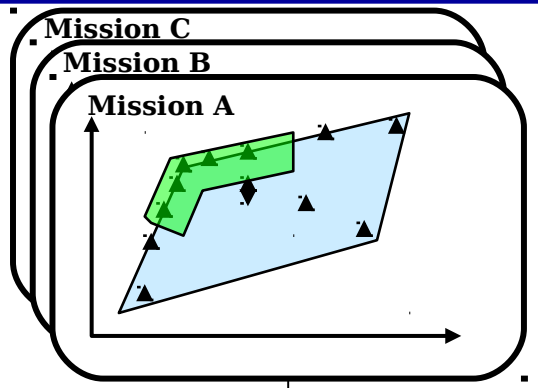
Mission Shortfalls
Information Shortfalls
Options
Services
• Joint Staff
• Meta-analysis
Comms/Network Capacity | Fully Funded Baseline | Massively Commerical | Airborne Comm Node | Space based overlay | Terrestial overlay
Comms/Network Interoperability | Joint Tactical Internet
Collection | RIA + | Classified Demos 12 | Discoverer II | Sentinel | NSA Bus Plan Fullfunding
Collection | HAE UAV SIGINT | HAE UAV Adv GMTI | HAE UAV FoPen | Bi-static SBR w/UAV | Micro UAVs
Collection | New method active, passive | Dist UGS | F22 JSR (R) | TAC Air Pods | CNE
Dynamic Collection Mgt | ICM Fullyfunded | CICMP Fullyfunded | MSRDA
Dynamic Exploitation | SIAP | Integrated Land Picture | Full TPED TAP funding | TCT Cells | Gnd Target Tracking
Information Management | GIG | JBI | Non-terotc Fusion | IDM scale up
Information Assurance | DoD PKI | C2 Guard | Radiant Mercury | Quick reaction capability
Collaborative Environment | JIVA Fullyfunded
Potential Offsets | TBD
Reasonable Solution Alternatives (option combinations)
QTA Engine
Equity Process
Mission and System Models
• Services
• Joint Staff
• Other analyses
Mission C
Mission B
Mission A
B
$
Investment Vectors
Key Products
1. Down-selected set of options
2. Estimated operational effectiveness improvement
3. Synergy between ISIS results and Mission and System modeling efforts

Synthesizing Investment Vectors

Mission Shortfalls → **Information Shortfalls** → **Options** → 

Prioritized capabilities needed by mission

C3I/CIO Guidance

- [illegible]
- **Vision (*e.g.*, GIG, ICSP)**
- **Enterprise management**
- **Fiscal direction**

DoD Guidance

- **Defense Strategy**
- **Mission Priorities**
- **Risk Threshold**
- **Vision (*e.g.*, JV2020)**

\+ Trade-Off Analysis + [C3I/CIO Guidance] + [DoD Guidance]

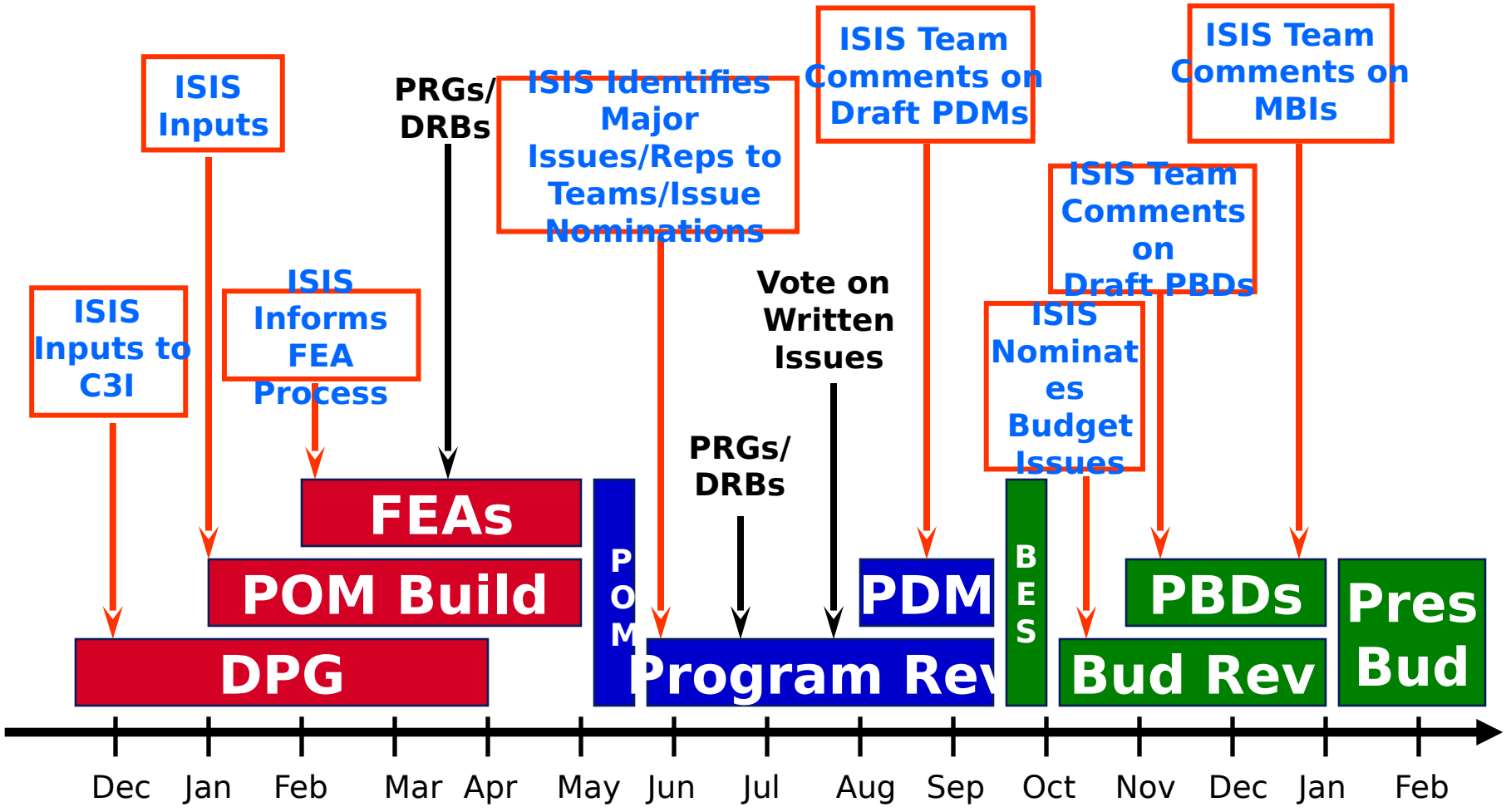
SD/C3I Levers

Integrated input to QDR, DPG
(Capability priorities across missions)

POM issue paper generation and resolution

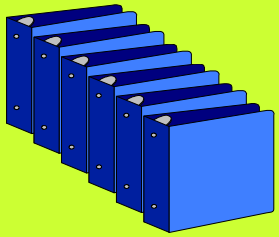
Broad context for C3I decisions on individual i

ISIS and the PPBS



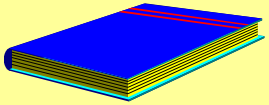
ISIS Products and Schedule

(through February 2001)



Mission Area Assessments (MAAs):

Qualitative assessments of Information Superiority support to six key missions in the Halt Phase of an MTW -- JSEAD, TAMD, Strike, Interdiction, Ground and Ma... operations



Options Analysis:

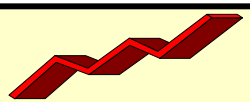
Qualitative assessments of the needs and shortfalls within three key Information Superiority Domains -- ISR, Communications and Information Assurance.

Options Ranking:

Cost-benefit analysis of the options generated, using Qualitative Threshold Assessment and the Equity tool.

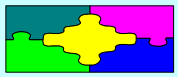
Trade-off Analysis:

The offsets will be identified by expert review of programs, PRG and IPRG issues, and economic analysis.



Baseline Analysis:

Analysis of the FYDP, to determine what is being spent on specific capabilities.



ISIS Process:

Document describing the process that has been established.

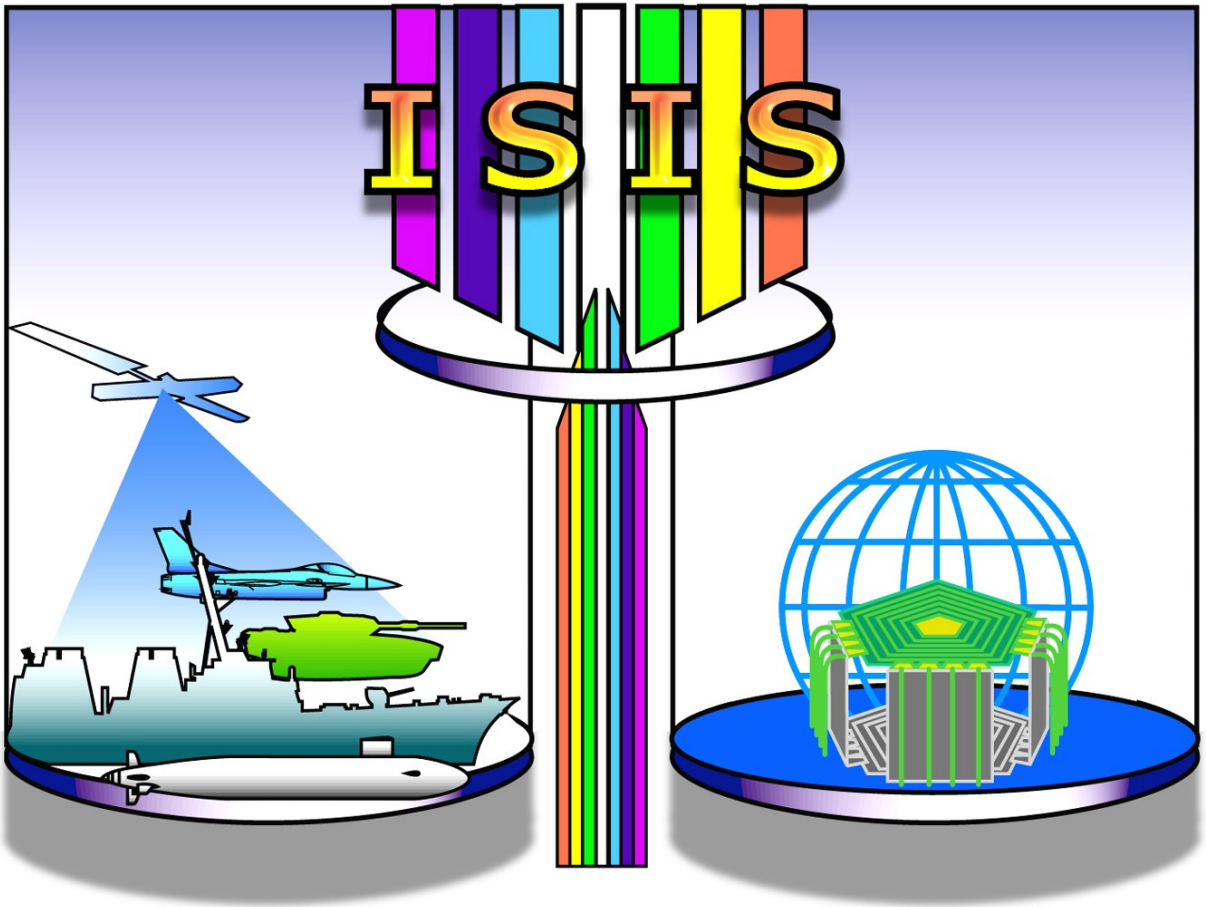
October 2000 | November 2000 | December 2000 | January 2001 | February 2001

One Year into ISIS:

- ✓ **ISIS Process established**
  - **Mission oriented, cross discipline investment strategy framework**
  - **Integrate across many existing and ongoing analyses**
  - **System of system management for C4ISR PSA**
- ✓ **Completed MTW (Halt) and OAF-like mission assessments**
  - **Initiated assessment of broader mission areas (LRC, counter proliferation)**
- ✓ **Identified options to address C4ISR shortfalls in mission assessments**
- ✓ **Identified major C4ISR issues (with linkage to mission impact)**
- ✓ **Analyzed the C3ISR budget**
- **Initiated trade-off analysis to meet anticipated fiscal guidance**
- **Established inter-domain activities in Comms/Networking, ISR and IA (in conjunction with the DIAP)**
- **Developing benefit estimation tools**
- **ISIS O-6 leadership engaged with Joint Staff QDR**
- **Partially engaged with OSD QDR working group**

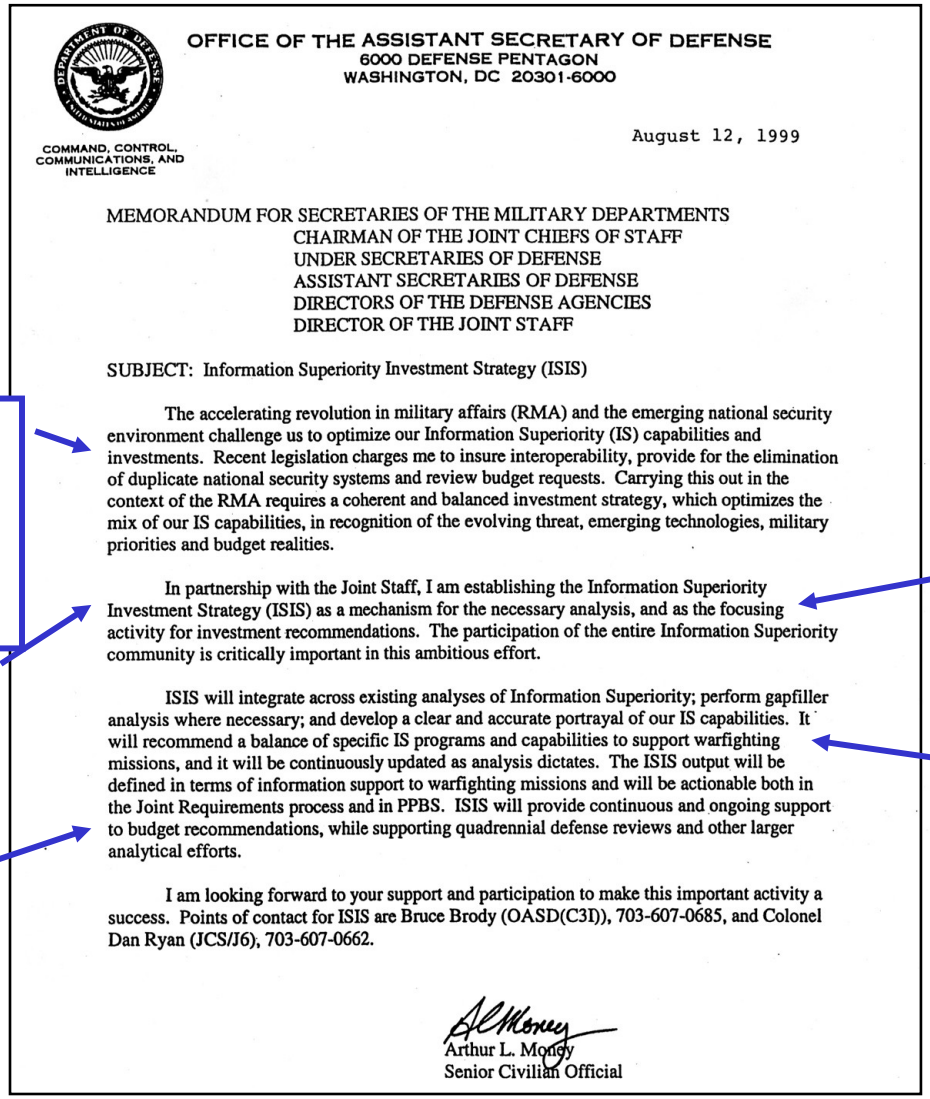
✓**Completed and delivered on 31 October 2000**

Superiority Investment Strategy



BACKUP SLIDES

OASD(C3I) and the Joint Staff Established ISIS as a Process To Focus Investment Recommendations



OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
6000 DEFENSE PENTAGON
WASHINGTON, DC 20301-6000

COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE

August 12, 1999

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
ASSISTANT SECRETARIES OF DEFENSE
DIRECTORS OF THE DEFENSE AGENCIES
DIRECTOR OF THE JOINT STAFF

SUBJECT: Information Superiority Investment Strategy (ISIS)

The accelerating revolution in military affairs (RMA) and the emerging national security environment challenge us to optimize our Information Superiority (IS) capabilities and investments. Recent legislation charges me to insure interoperability, provide for the elimination of duplicate national security systems and review budget requests. Carrying this out in the context of the RMA requires a coherent and balanced investment strategy, which optimizes the mix of our IS capabilities, in recognition of the evolving threat, emerging technologies, military priorities and budget realities.

In partnership with the Joint Staff, I am establishing the Information Superiority Investment Strategy (ISIS) as a mechanism for the necessary analysis, and as the focusing activity for investment recommendations. The participation of the entire Information Superiority community is critically important in this ambitious effort.

ISIS will integrate across existing analyses of Information Superiority; perform gapfiller analysis where necessary; and develop a clear and accurate portrayal of our IS capabilities. It will recommend a balance of specific IS programs and capabilities to support warfighting missions, and it will be continuously updated as analysis dictates. The ISIS output will be defined in terms of information support to warfighting missions and will be actionable both in the Joint Requirements process and in PPBS. ISIS will provide continuous and ongoing support to budget recommendations, while supporting quadrennial defense reviews and other larger analytical efforts.

I am looking forward to your support and participation to make this important activity a success. Points of contact for ISIS are Bruce Brody (OASD(C3I)), 703-607-0685, and Colonel Dan Ryan (JCS/J6), 703-607-0662.

Arthur L. Money
Senior Civilian Official

"Recent legislation" refers, *inter alia*, to the Clinger-Cohen Act and the Government Performance and Results Act.

ISIS is a partnership between OASD(C3I) and the Joint Staff J-2 and J-6.

ISIS was established to support the PPBS and QDR processes.

ISIS is a focusing activity for investment recommendations.

ISIS will recommend a balance of Information Superiority programs and capabilities to support DoD mission outcomes.

Why ISIS?

Title 10

"One of the Assistant Secretaries shall be the Assistant Secretary of Defense for (C3I). He shall have as his principal duty the overall supervision of command, control, communications, and intelligence affairs of the Department of Defense."

Strom Thurmond Defense Authorization Act for FY99

"… the Chief Information Officer of the (DoD) shall -- review and provide recommendations to the (SecDef) of Defense budget requests for information technology and national security systems … (and) provide for the elimination of duplicate information technology and national security systems within and between military departments and the Defense Agencies."

Demands on information:
C4ISR budget direction:

Comprehensive , cross cutting, balanced, coherent approach needed

Defense Authorization Act for FY0

Sec. 118. Quadrennial defense review

(a) REVIEW REQUIRED- The Secretary of Defense, in consultation with the Chairman of the Joint Chiefs of Staff, shall conduct in each year in which a President is inaugurated a comprehensive examination of the defense strategy, force structure, force modernization plans, infrastructure, budget plan, and other elements of the defense program and policies with a view toward determining and expressing the defense strategy of the United States and establishing a revised defense plan for the ensuing 10 years and a defense plan for the ensuing 20 years.

1999 Defense Planning Guidance

"The ASD(C3I) will help define the necessary evolution of information superiority by committing to **… sponsor end to end C4ISR investment process**"

DJS Letter 14 July 1997

The J6 …**Coordinating Authority for Information Superiority**… address acquisition issues across organizational boundaries

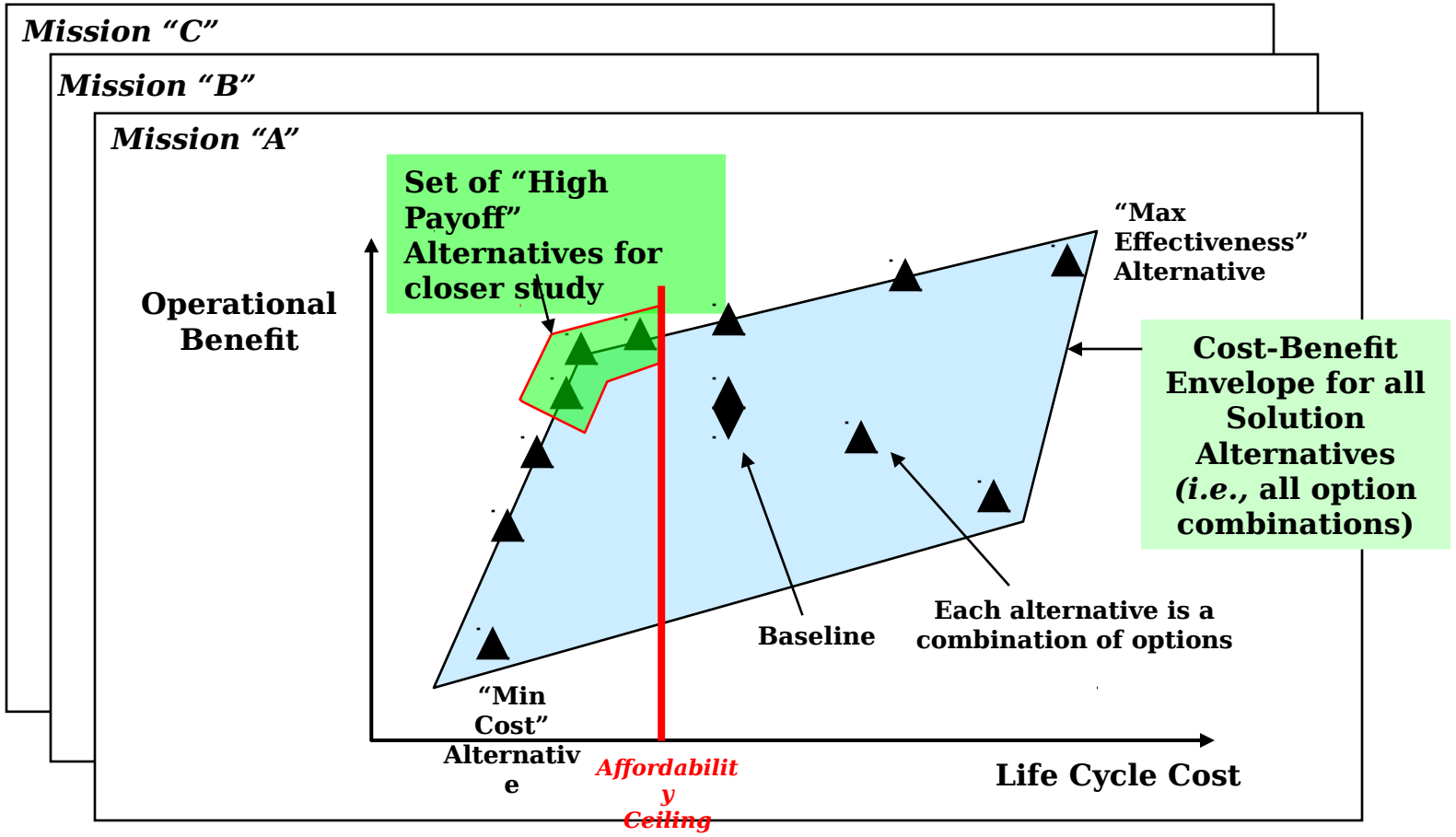
The Joint Mission Areas

Investment in C4ISR related JMAs supports primary and other supporting JMAs

	Dominant Maneuver	Precision Engagement	Strategic Deterrence	Special Operations	Information Operations	Focused Logistics	Full Dimensional Protection	Training and Experimentation	Interagency Coordination	Multinational Ops and
Joint Command and Control Collaboration, visualization, synthesis, decision support										
Comms and Computers Information dissemination Information management, security										
ISR Collection and Analysis Task, organize, store										

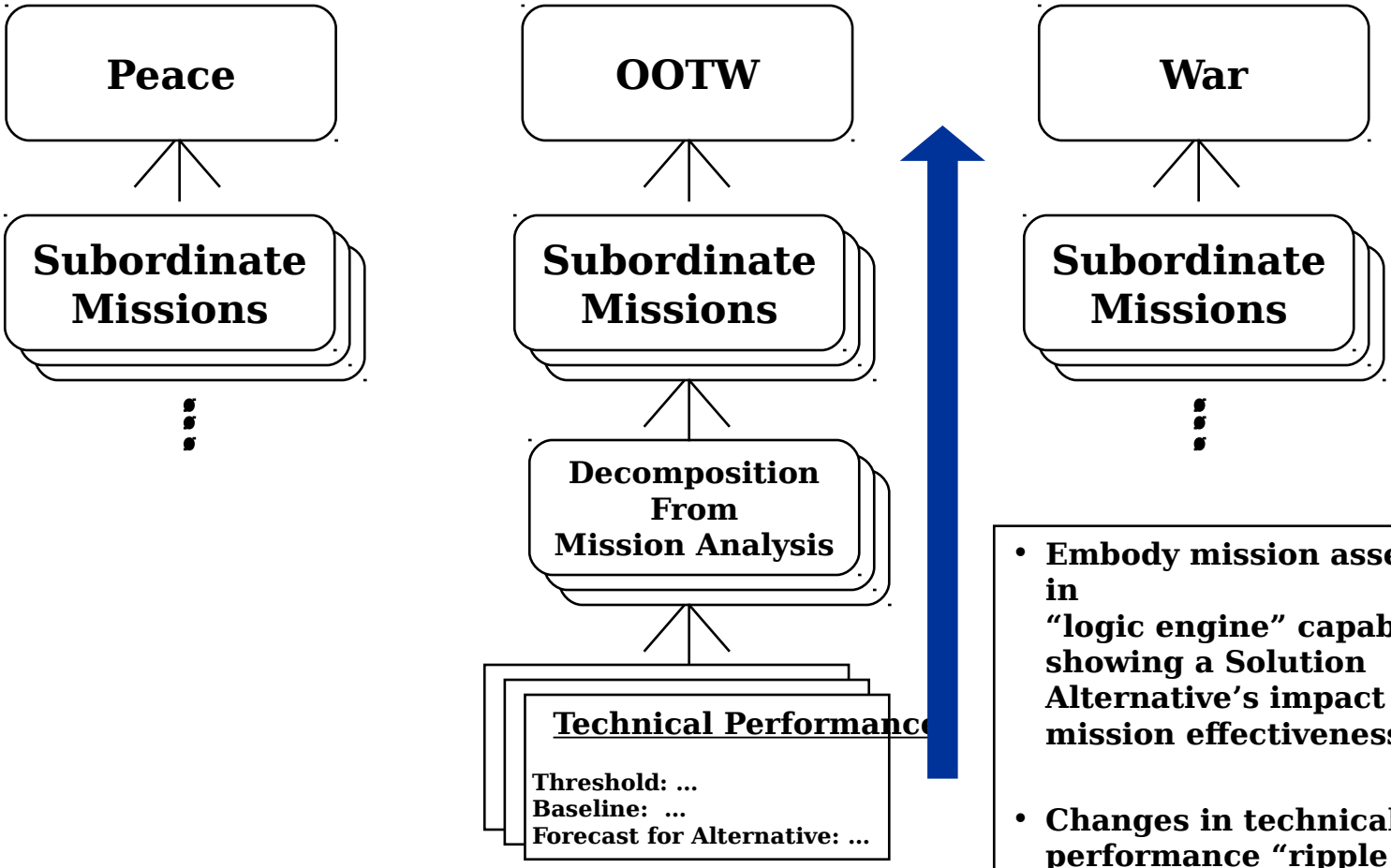
Assessment Scale: Compromises Mission | Does not meet requirements | Meets Requirements | Exceeds Requirements

Evaluate Solution Alternatives



Alternatives along upper edge of cost benefit envelope represent optimum set of options in which to invest

Qualitative Threshold Assessment (QTA) Engine



- **Embody mission assessments in "logic engine" capable of showing a Solution Alternative's impact on mission effectiveness**
- **Changes in technical performance "ripple upward" through assessment to mission level**

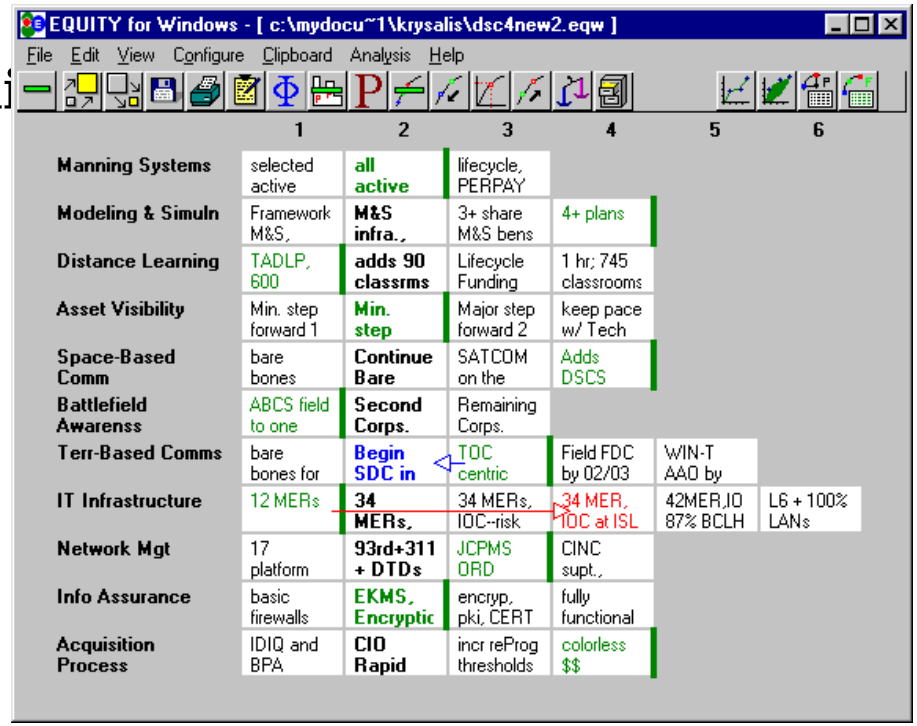
Decision Framework Tool - Equity

Equity frames the portfolio issue like a Chinese menu

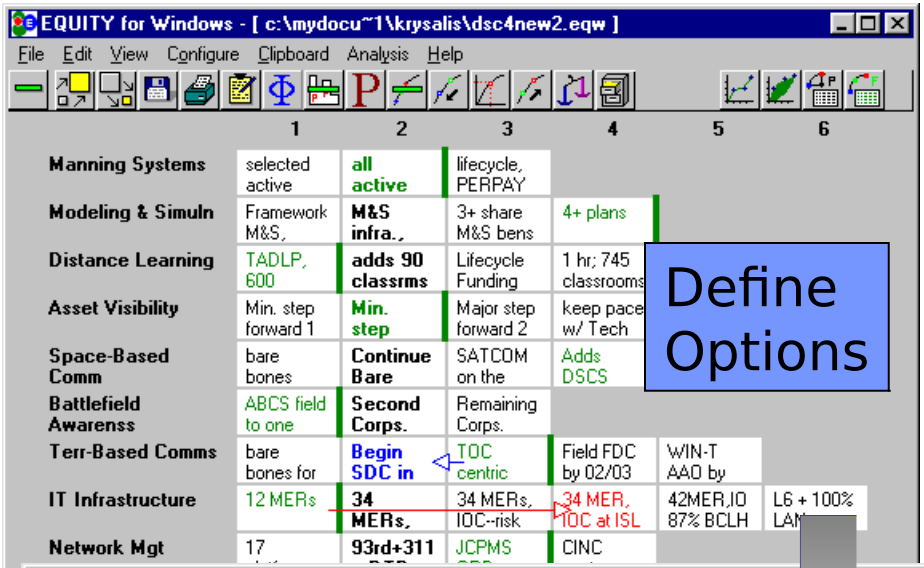
- a *group* chooses a portfoli
- by *picking options* from categories

Process

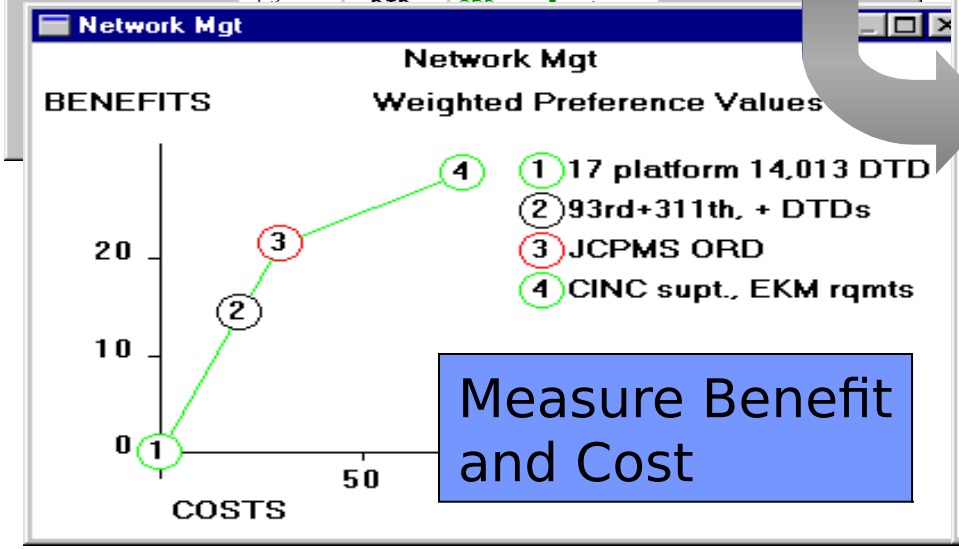
- Construct the menu
- "Score" the options and "weight" the categories in terms of relative utility estimated for options
- An efficient "order of buy" over options is calculated, revealing all best-buy combinations (top edge of cost benefit



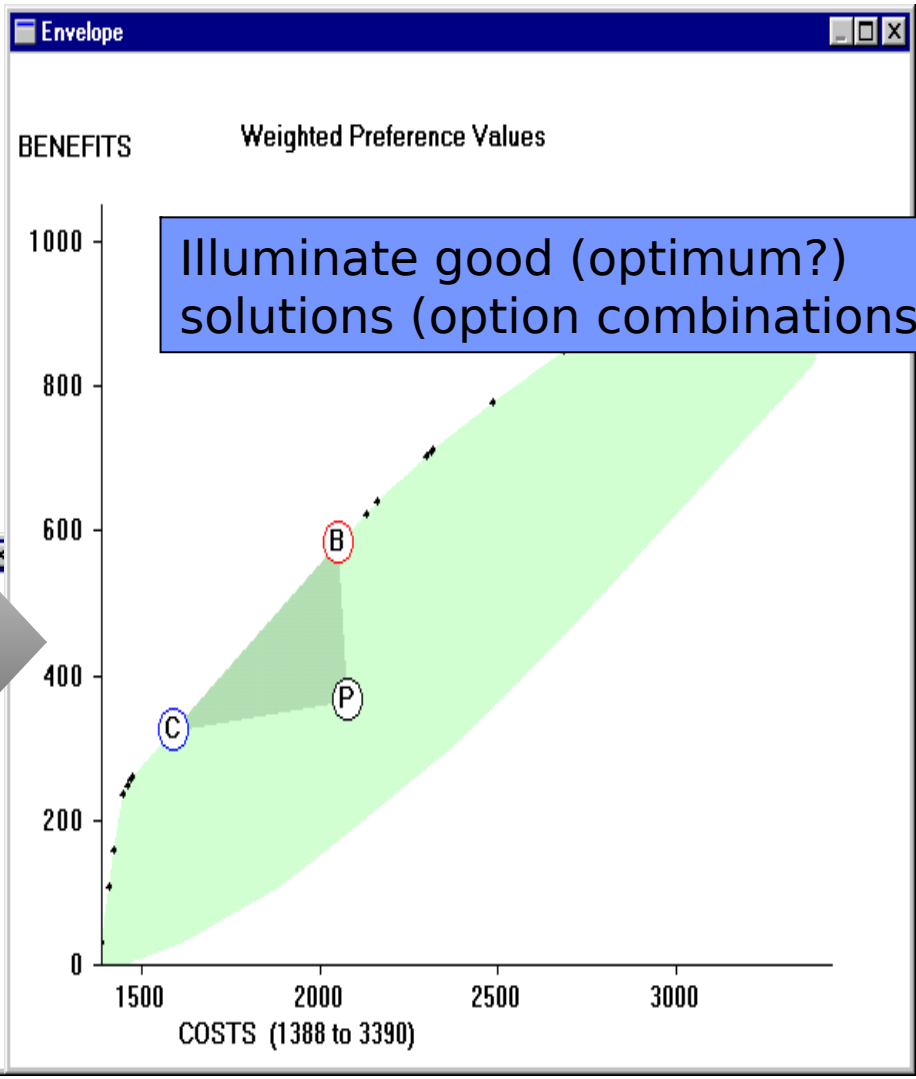
Stages of an Equity Analysis


EQUITY for Windows - [c:\mydocu~1\krysalis\dsc4new2.eqw]
File Edit View Configure Clipboard Analysis Help
1 2 3 4 5 6
Manning Systems | selected active | all active | lifecycle, PERPAY
Modeling & Simuln | Framework M&S, | M&S infra., | 3+ share M&S bens | 4+ plans
Distance Learning | TADLP, 600 | adds 90 classrms | Lifecycle Funding | 1 hr; 745 classrooms
Asset Visibility | Min. step forward 1 | Min. step | Major step forward 2 | keep pace w/ Tech
Space-Based Comm | bare bones | Continue Bare | SATCOM on the | Adds DSCS
Battlefield Awarenss | ABCS field to one | Second Corps. | Remaining Corps.
Terr-Based Comms | bare bones for | Begin SDC in | TOC centric | Field FDC by 02/03 | WIN-T AAO by
IT Infrastructure | 12 MERs | 34 MERs, | 34 MERs, IOC--risk | 34 MER, IOC at ISL | 42MER,IO 87% BCLH | L6 + 100% LAN
Network Mgt | 17 | 93rd+311 | JCPMS | CINC

Define Options

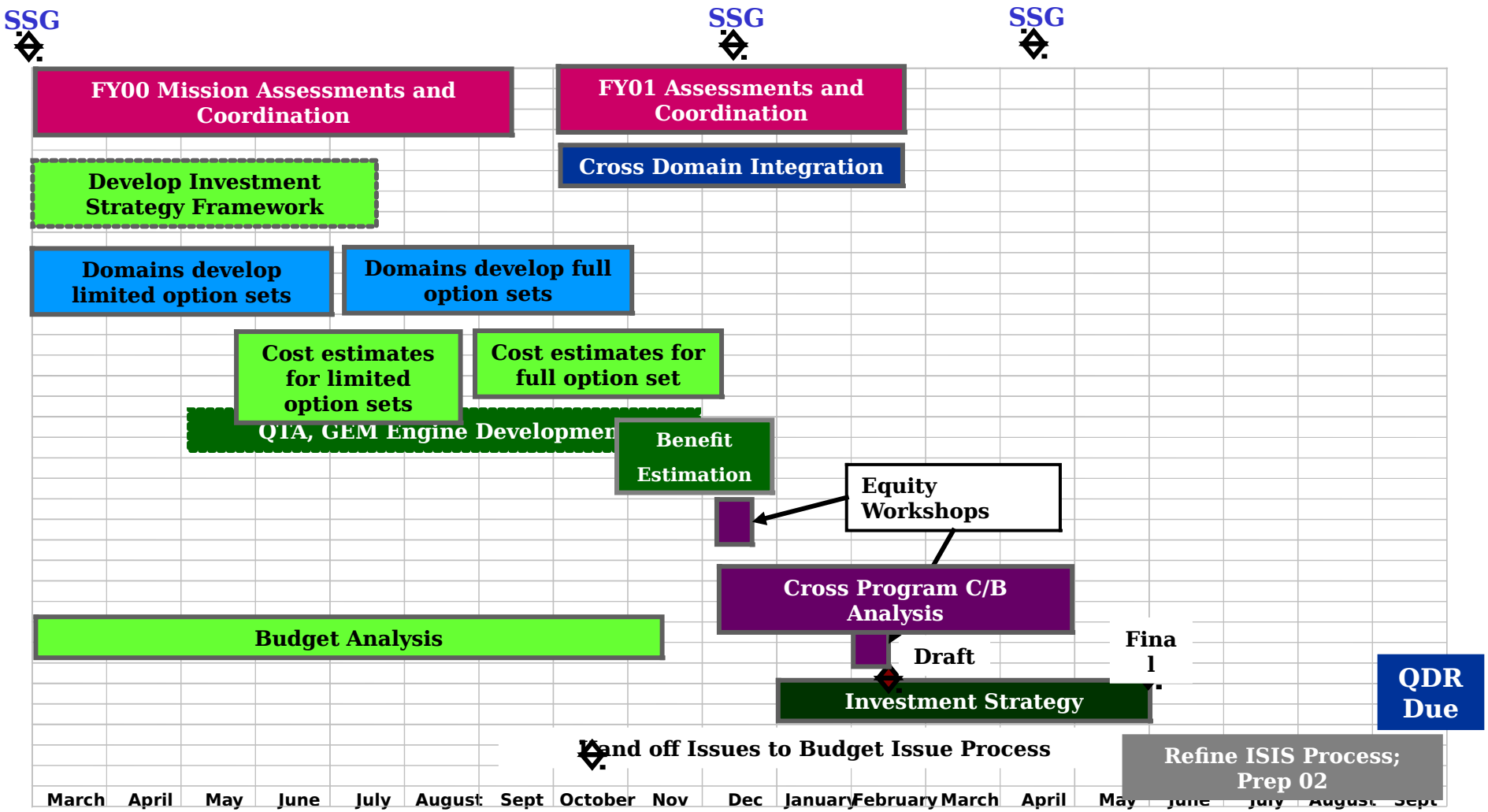


Measure Benefit and Cost



Illuminate good (optimum?) solutions (option combinations

FY01 Focused Schedule



Goal: Process Based Response to Developing Opposition Capabilities